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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/791,633

03/01/2004

Bevan Staple

019930-002510US

3080

20350

7590

04/15/2005

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EXAMINER

TAMAI, KARL I

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/791,633

Applicant(s)

STAPLE ET AL.

Examiner

Tamai IE Karl

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-13, 15-20 and 22-26 is/are pending in the application.  
4a) Of the above claim(s) 17-20 and 22-26 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4, 6-13, 15 and 16 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/28/2004.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group I, Claims 1-4, 6-13, and 15-17 in the reply filed on 2/11/2005 is acknowledged. The traversal is on the grounds that there is no undue burden on the examiner is not persuasive because the broad claim of the apparatus can be used for other devices and method of operating, than an electrostatic snare or latch as set forth in groups II and III. The additional search for the operation of the structure as a snare or latch is an additional undue burden upon the examiner.

The requirement is still deemed proper and is therefore made FINAL.

***Information Disclosure Statement***

2. The information disclosure statement filed 4/28/2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. The references that were in the parent application have been considered as indicated on the initialed PTO 892. The "Electrostatically Balanced Comb Drive for Controlled Levitation" article by Tang was not found in the parent application 09/899002 and has not been considered.

***Specification***

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification, such as: the first line of the specification should be amended to include the patent number of the parent application.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1, 4, 6, 10, 13, and 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Yamada et al. (Yamada)(US 5959760). Yamada teaches an electrostatic actuator (fig. 12 a). Yamada teaches the tilt able platforms 11 and 2 are supported over the substrate 1 by torsion beams and rotate to be interdigital upon activation. Yamada teaches the tilt able assemblies made of thin films with structural linkage platforms having fingers on the ends.

7. Claims 1, 4, 10, and 13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Bartlett et al. (Bartlett)(US 6469821). Bartlett teaches an electrostatic actuators with electrodes on the substrate to tilt interdigital platforms 802. The platforms supported by torsion beams 120.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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10. Claims 2, 3, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (Yamad1a)(US 5959760) and Schenk et al. (Schenk) (US 6595055). Yamada teaches every aspect of the invention except the platforms supported as a cantilever and torsion beam. Schenk teaches the equivalence of the support for the rotating platform being cantilevered or torsion beam (col. 6. line 65). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Yamada with the support for the tilting platforms being cantilevered and torsions beam to allow oscillation of the platform as taught by Schenk, and because selection between know equivalents is within the ordinary skill in the art.

11. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (Yamada)(US 5959760) and Mitamura (US 5,908,986). Yamada teaches every aspect of the invention except the electrodes and structural film formed from polysilicon. Mitamura teaches the electrostatic actuators can be made from silicon or polysilicon films. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Yamada with the structural thin film and electrodes being polysilicon because Mitamura teaches it is the preferred material and the structures can be easily formed by well know technologies, and because selection of the preferred material is within the ordinary skill in the art (*In re Leshin*, 125 USPQ 416).

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12. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (Yamada)(US 5959760). Yamada teaches every aspect of the invention except the first structural linkage at a greater height than the second structural linkage. Yamada teaches the opposing electrodes at different heights to control the deflection angle of the mirror. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the actuator of Yamada figure 12 with the electrodes 15 and 2 being at different heights to control the deflection angle, as taught by Yamada.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (703) 872 - 9306.

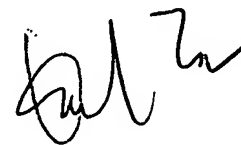
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai

PRIMARY PATENT EXAMINER

April 12, 2005

Cited references: 5908986, 5959760, 6469821, 6595055, 6701037



**KARL TAMAI**  
PRIMARY EXAMINER